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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,602	12/28/2001	Stuart A. Golden	10559-510001/ P12414	2696
20985	7590	10/08/2003	EXAMINER	
FISH & RICHARDSON, PC 4350 LA JOLLA VILLAGE DRIVE SUITE 500 SAN DIEGO, CA 92122			GUTIERREZ, ANTHONY	
			ART UNIT	PAPER NUMBER
			2857	
DATE MAILED: 10/08/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/040,602	GOLDEN ET AL.
	Examiner	Art Unit
	Anthony Gutierrez	2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 28 December 2001.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-39 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5,12-14,16,23-25,27,34-36 and 38 is/are rejected.
- 7) Claim(s) 4,6-11,15,17-22,26,28-33,37 and 39 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 May 2003 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Claim Objections***

1. Claims 8, 19, 30, and 39 are objected to because of the following informalities:

Each claim contains the phrases "a first estimate  $\square 1$ " and a second estimate  $\square 2$ " which should instead read "a first estimate  $\wedge 1$ " and "a second estimate  $\wedge 2$ ". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5, 12-14, 16, 23-25, 27, 34-36 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (US Patent Application Publication US 2002/0197975 A1).

As to claims 1, 2, 12, 13, 23, 24, 34, and 35, Chen discloses a method comprising: observing a continuous finite duration signal  $y_n$  that comprises a representation of a mixture of a desired signal and an undesired signal, the undesired signal comprising an offset component (paragraphs 0002, 0005, and 0009); modeling the offset component of the undesired signal as comprising a step function a defined by unknown step function parameters (paragraphs 0028-0031); estimating the unknown step function

parameters (paragraphs 0036-0038); and adjusting  $y_n$  based on the estimated step function parameters (paragraph 0039).

As to claims 3,14,25, and 36, Chen further discloses in which  $y_n$  comprises a discrete signal (paragraph 0052, lines 10-12).

As to claims 5,16,27, and 38, Chen further discloses (see Fig. 5A) in which the step function parameters include a first parameter indicative of a first amplitude of the step function ( $x_1$ ), a second parameter indicative of a second amplitude of the step function ( $x_2$ ), and a third parameter indicative of a point at which the step function transitions from the first amplitude to the second amplitude ( $T$ ), and in which the desired signal is a function of at least one unknown signal parameter (paragraphs 0038, equations 9-11).

### ***Allowable Subject Matter***

4. Claims 4,6-11,15,17-22,26,28-33,37 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Publication US 2002/0196845 A1 and US Patent 6,556,621 disclose modeling a transmitted waveform produced by supplying a step function into an ultra-wideband antenna as a Gaussian monocycle.

US Patent 6,584,147 discloses a two-step process that allows obtaining the channel impulse response out of the step function encoded in the preamble.

US Patent 6,336,050, discloses an invention that converged in function evaluations for a step function test function whereas it was found that the Dynamic Hill Climbing algorithm would not converge.

US Patent 6,185,716 discloses the subtraction of cancellation values which transforms a pulse of input data, which represents a single magnetic transition sensed by a read head, into a step function having a non return to zero format.

US Patent 3,716,849 discloses using a step function as a weighting function to improve noise rejection in an integrating type of A/D converter.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Gutierrez whose telephone number is (703) 305-1973. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on (703) 308-1677. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0976.

Anthony Gutierrez

  
9/22/03

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800